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CREATIVE APPROACH TO ESTABLISHING THE DEVELOPMENTAL EDUCATIONAL ENVIRONMENT OF NEW UKRAINIAN SCHOOL

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The formation of information and communication environment requires the modernization of the system of education. Today it is extremely necessary not only to increase the level of education of people, but also the formation of a new type of intelligence, a way of thinking that determines people's attitudes to the rapidly changing economic, technological and social realities of the world.

The article lists a number of personal qualities inherent in creative people, namely: the desire to achieve the goal; high level of motivation; well-developed self-confidence, analytical and problem-solving enthusiasm, willingness to take risks and accept failure; the ability to connect various unrelated elements or objects, etc.

The necessity of overcoming the reproductive type of education and transition to such an educational system, which could fully ensure the cognitive activity and independence of students' thinking is substantiated.

The analysis of the problems of project-based learning is conducted; a number of differences between project-based and traditional means of learning is identified, namely: the loss of the leading role of the teacher in the educational process passing it to the student; violation of the main condition of traditional education, which is manifested by the presence of ready-to-

the subject (student) him/ herself composes his/ her project from a set of knowledge and concepts; the main element of the educational process is not knowledge, but information.

It is determined that the educational environment of the school on the basis of ICTs is a multidimensional individualized self-organized integrity, saturated with all necessary components, first of all information and communication, which enables the individual functioning

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in it to develop his/her abilities and ensure his/her self-realization and personal growth. ICT is also identified as one of the means of developing the creativity of a modern student.

It is proved that schools with educational environment focused on the creative development of students can use a variety of teaching aids and greatly improve students' academic successfulness.

Key words: creativity, development of creativity, students' creative potential, educational environment, learning environment, creative approach, creative technologies, developmental education, traditional education, New Ukrainian School.

КРЕАТИВНИЙ ПІДХІД ДО СТВОРЕННЯ РОЗВИВАЛЬНОГО ОСВІТНЬОГО СЕРЕДОВИЩА НОВОЇ УКРАЇНСЬКОЇ ШКОЛИ

В. В. Павленко

Формування інформаційно-комунікаційного середовища вимагає модернізації системи освіти. Сьогодні вкрай необхідно не просто підвищити рівень освіченості людей, а й формування нового типу інтелекту, способу мислення, що визначає ставлення людей до швидко змінюваних економічних, технологічних, соціальних реалій навколишнього світу.

У статті зазначені особистісні якості, властиві креативним людям, а саме: бажання досягти мети; високий рівень мотивації; високий рівень самовпевненості, захопленості проблемою й зацікавленості, готовності ризикувати й прийняти невдачу; здатність з'єднувати різні непов'язані елементи або об'єкти та ін.

Обґрунтовано необхідність подолання репродуктивного типу навчання та переходу до такої освітньої системи, яка б повною мірою могла забезпечити пізнавальну активність і самостійність мислення учнів.

Проведено аналіз з проблеми проектного навчання та виявлено ряд відмінностей проектного навчання від традиційного: це перш за все, втрата провідної ролі вчителя в освітньому процесі, який навчається стає провідним суб'єктом процесу освіти; порушується головна умова традиційної освіти – наявність готових, систематизованих знань, що підлягають засвоєнню. Суб'єкт сам з безлічі знань та понять будує свій проект; головним елементом освітнього процесу стають не знання, а інформація.

Визначено, що освітнє середовище школи на основі ІКТ – це багатовимірне індивідуалізоване самоорганізоване цілісність, насичена всіма необхідними компонентами, в першу чергу інформаційно-комунікативними, що дає можливість особистості, що функціонує в ній, розвинути свої здібності, а також забезпечити її самореалізацію й особистісний ріст. Встановлено, що ІКТ є одним із засобів розвитку креативності сучасного учня.

Показано, що школи, освітнє середовище яких орієнтовано на креативний розвиток школярів, можуть використовувати різноманітні навчальні засоби й отримувати позитивний результат розвитку учнів.

Ключові слова: креативність, розвиток креативності, креативний потенціал учнів, освітнє середовище, креативний підхід, креативні технології, розвивальне навчання, традиційне навчання, Нова українська школа.

Introduction of the issue. The problem of creative development has drawn the attention of researchers since the XX-th century. The substantial increase in interest in it was associated with the conditional division of thinking into divergent and convergent, which was proposed by American scientist

J. Guilford. Creativity development programs were designed on the basis of his theory and are in high demand all over the developed countries, as well as they are used in the modern education system of Ukraine.

Today, society has many theories of creativity that help to look at existing

issues in a non-standard way and offer some non-standard solutions.

One of the primary steps to increase the effectiveness of learning in the educational environment of the New Ukrainian School is the introduction of a creative approach. The problem stems from the contradiction between the need for creative individuals as the main resource for establishing an innovative economy, including social growth, and insufficient development and practical implementation of creative learning in school practice.

This topic proves its relevance due to current conditions, which imply a great need to train creative teachers capable of self-education, self-realization, discovering new areas of life, and who are ready to overcome multiple real-life difficulties; hardening of young people who will be well aware of all the peculiarities of their subject and will work in different conditions using modern technologies, and are capable of enriching the world with their own experience, as well as passing their knowledge to students.

In psychological and pedagogical research, creativity is considered: through the manifestation of intellectual initiative (D. Bohoiavlenska); in the context of the holistic structure of the creative process (A. Matiushkin); through the concepts of development of the internal plan of action (A. Ponomarov); via creating a special environment in which man is integrated as a creative individual (A. Petrovskiy).

Current state of the issue.

According to J. Guilford's research, creativity is a combination of divergent, convergent and evaluative mental operations. The evaluation criteria are flexibility, speed and originality of answers in an unusual situation, as well as the sensitivity of the individual to the problem and the ability to rethink information. Flexibility is related to the ability to transform different forms of teacher-student

relationships. Speed is measured by the number of products completed. Originality is expressed in the ability to generate a variety of transformations. These three parameters are part of divergent thinking. Sensitivity to the problem is the ability to assess the situation given in order to make and apply changes needed for improvement. Convergent thinking is used to redefine information [11].

The phenomenon of creativity in all aspects, namely: personality, process, product, environment – are considered in detail by many researchers.

According to the definition of Drevdal [10: 21-26], creativity is a person's ability to produce compositions, products and ideas that are new in their essential features and unknown in advance to the person who creates them.

Creativity is manifested in different ways, such as originality and speed of thinking, the ability to find unexpected solutions in hopeless situations, a rich imagination, a sense of humor, the creation of new original products.

It should be noted that there are certain set of personal qualities inherent in creative people, namely: the desire to achieve the goal; high level of motivation; well-developed self-confidence; problem-solving enthusiasm; willingness to take risks and accept failure; the ability to connect various unrelated elements or objects; assimilation of negative results that accompanied the failed projects; ability to change existing paradigms and evaluate different perspectives; desire to accomplish the remaining projects without dropping them, etc. [6].

Addressing the phenomenon of creative personality, M. Csikszentmihalyi quite metaphorically describes the qualities inherent in this type of personality: "As white color consists of all the colors of the spectrum, so a creative person contains all the variants of human qualities at once" [9].

Aim of research is to substantiate the effectiveness of the use of creative technologies in order to create a developmental educational environment of the New Ukrainian School aiming at increasing the level of development of creativity of students.

Results and discussion. By "environment" we mean a set of phenomena, processes and conditions that affect the object under study. The specificity of the concept of "environment" is that it cannot be understood outside the relationship to someone or something.

Some aspects of the problem of the environment in pedagogy began to be studied from the beginning of the XX-th century (in the 20-30's – one of the areas of foreign pedagogy). K. Ushynskiy, L. Pyrohov, A. Leshaft and others worked within the framework of this theory. Proponents of this theory saw the pedagogical process in the form of a chain: object–environment–subject.

The environmental approach in the development of creativity is presented in the works of L. Vyhotskiy, V. Druzhynina, Ye. Ilina, T. Liubart and others. Thus, L. Vygotsky wrote: "The educational process is three-way active: an active teacher, an active student, an active environment, which is formed between them." Interacting with the environment a person develops him/herself while changing the environment [1: 244, 322].

Modern Ukrainian schools differ not only in the content of curricula, but in all the essential characteristics of the school as a social institution, namely: the emotional environment and personal well-being of participants of the educational process; features of its microculture; particular components of the educational process itself; the activity of students; the democracy of relations and interactions of the students and teachers, etc.

According to our point of view, the *educational environment* is a holistic

qualitative characteristic of the internal life of the school, which is:

- determined by specific goals and objectives that the school sets and actually solves in its activities;

- manifested in the choice of means by which these tasks are solved (the means include school-selected curricula, forms of organization of education, the type of relationship between teachers and students, quality of assessments, style of informal interactions between children, organization of extracurricular life, school logistics, classroom design, etc.);

- demonstrated by the indicators of effectiveness in terms of child development: personal (self-esteem, motivation), social (competence in communication, status in the classroom, team behavior, etc.), intellectual (mastering the basics of learning), creative (behavior in unusual situations).

The modern school consciously focuses its activities on achieving a developmental effect such as expansion of children's intellectual abilities as well as their creativity. At the same time, non-traditional teaching methods are widely used, for instance: encouraging discussions and round-table talks; praising the expression of child's own opinion; setting a search activity of children as a core of the learning process; putting emphasis on the independent development, observation, generalization and comparison of different phenomena; enabling teachers to communicate with children while using non-traditional, creative approaches to the educational process.

Today, information culture is becoming part of everyday life, moreover, the formation of a new data and communication environment requires the modernization of the education system, thus it is essential not only to increase the level of knowledge of people, but also the formation of a new type of intelligence, a way of thinking that determines

people's attitudes to the rapidly changing economic, technological, social and information realities of the world – creative personality.

In our opinion, it is advisable to design such an educational environment, which, based on the widespread use of information technology, increases the creativity of students, and would create conditions that are most favorable for personal self-development.

Environment is impacted by such factors as:

- direct action (for example, sources of information, training equipment used in the laboratory workshop, systems to support learning activities and communication in the process of project-based activities);

- side effects that indirectly affect the acquisition of knowledge and development of students (room temperature, lighting, school space and school supplies);

- ones that operate outside the educational process, among which we can highlight the spatial and substantive organization of the environment (design of school recreation, changes in the design of school premises, etc.).

In a traditional educational environment, the potential for individualization is limited to one teacher leading the lesson, nevertheless, the use of information technology allows to maximize the customization and individualization of the educational process in order to build it taking into account the characteristics and features of a particular student, ensuring his/her active participation and self-development.

E. Ratkina and Yu. Lysiukova note that the information environment of educational activities is formed by:

- the teacher (determines the content of the course, the choice of educational literature, teaching methods, communication style, etc.);

- the pedagogical staff of the educational institution (determines the general requirements for students, preserves the traditions of the educational institution, forms relations between the educators and student teams, etc.);

- state as a social institution (determines the financial support of education in general, including the social order for the formation of a certain system of knowledge and views) [7: 19-25].

Creative educational environment of the school on the basis of ICTs is a multidimensional, individualized, self-organized integrity, saturated with all necessary components, such as information and means of obtaining it that gives the chance to the individual to develop his/her creative abilities, and also to provide him/her a possibility of self-realization and personal growth.

Thus, the development of students' ability and readiness for creative activity should be formed in the process of studying various subject areas. The development and dynamics of personal creativity are primarily influenced by the pedagogical conditions associated with the use of methods for the development of creative thinking of students, taking into account their personal qualities. The main purpose of the creative educational environment is to "awaken" the creator in a person, to develop the inherent creative potential, as well as to awaken the need for further self-knowledge, creative self-development.

The main task of NUS (New Ukrainian School) is to form a number of competencies in Ukrainian students, each of which is a combination of knowledge, skills, abilities, way of thinking, as well as views and values. At the same time, within one school subject, students, depending on the form of submission of a material, can master several competencies at once [4].

Common to all competencies are the strategic lines. Among them, we singled out, first of all, critical and systematic thinking, including the ability to logically justify the point of view, creativity, initiative, the ability to constructively manage emotions, assess risks, make decisions, solve problems, and the ability to cooperate with other people.

Analysis of pedagogical experience shows that creative thinking can be manifested in the following skills:

- independent problems and controversies identification;
- formulation and proper analysis of multiple kinds of problems, including successful further problem-solving;
- transition of knowledge, skills, abilities and kinds of learning activity into new situation;
- identifying new prospects of use and ways of exploitation of a known object;
- combining and synthesizing already assimilated ways of activity into new ones.

These skills can be purposefully formed with the help of special technologies. The most effective are the following technologies of creative personality development: active learning (method of synectics, method of morphological analysis, group discussion, brainstorming, etc.); creative design; research technology; technology for solving inventive tasks (TSIT); solving creative tasks; game interactive technologies (trainings, business, role, simulation games), etc.

A new educational environment has been created for Ukrainian schoolchildren at the expense of the state and city budgets, thus, most classrooms were re-equipped in accordance with the needs and demands of NUS: LEGO constructor sets for educational games, modern furniture, personal lockers, etc.

Eight educational centers have been created in each NUS class [4]: for educational and cognitive activities;

variable thematic cells; games; for artistic and creative activities; wildlife corner for experiments; recreation area; children's class library; teacher's lounge.

One of the conditions for the successful development of students' creativity is their inclusion in the learning process by the means of interactive technologies that allow them to interact with each other (interactive lecture; work in pairs; in microgroups; training sessions, etc.) [2: 131-148].

The NUS concept offers the implementation of integrated and project-based learning. This approach allows to give students a holistic view of the world, as they study phenomena from the perspective of different sciences, as well as learn to solve problems with the help of knowledge gained while studying various disciplines.

Project technology traditionally promotes the formation of skills for solving creative and exploratory problems, planning educational activities in accordance with the task, which is the basis of creative thinking. Moreover, during the project the students learn to evaluate the effectiveness of ways to achieve results, choose the best option and justify their choice. The planning of project activities is focused on involving students in joint activities to set goals, analyze and manage the learning process during the educational activities and reflection after its completion.

Among the educational results of the interdisciplinary program of project activities we highlight the following skills: problem statement; hypothesis composition; substantiation of the choice of tools, methods and techniques, corresponding models in order to solve researched problem; organization and conduct of observation, experiment; presentation of results, etc. [8: 1-5].

"A core of knowledge is being formed, which will be superimposed on the ability to use this knowledge, values and skills

that will be needed by graduates of Ukrainian schools in professional and private life," – stated in the Concept of the New Ukrainian School [4].

The use of project work in educational activities allowed us to identify learning technologies that are appropriate for teachers in the

educational environment to form a project culture of primary school children. These technologies implement creative learning, which has some differences from traditional (reproductive) (see Table 1).

Table 1

Peculiarities of traditional and creative learning

Learning components	Type of learning	
	Reproductive	Creative
Problem statement by the teacher	Objective	Functional
Ways of solution	Accurately identified and indicated by the teacher	Methods and ways of solving the tasks are chosen by the student; variety of heuristic techniques, strategies, methods, tactics are used.
Examples of tasks	The teacher shows the prototype	Analogies of properties and relations in animate and inanimate nature, as well as within the society are discovered and used by the student.
Result(s)	Unambiguous and well-known	Ambiguous and unknown (new knowledge is formed).

The traditional variant of activity of the primary school teacher and the

student in project activity can be structured as follows (Table 2).

Table 2

Structure of teachers' and students' activity while using the method of project work

Teachers' and students' activity while using the method of project work	
Students	Teacher
Determine the purpose of the activity	Helps to determine the purpose of the activity
Uncover the new knowledge	Recommends the sources of knowledge and information
Experimenting	Reveals possible forms of work
Choose the ways of solving the problems and tasks	Helps predict results
Use known behavior patterns	Creates conditions for student activity
Subject of learning	Student's partner
Carry out responsibility for their actions	Helps to evaluate the result and identify side issues
Issues that arise when working on a project	
Issues	Solution
Lack of methodological basis	Set the direction of search for information on the selected problem; Provide assistance in selecting material from the topic

Psychological unpreparedness to accept the idea, lack of motivation	Create a favorable moral and psychological environment; disseminate information about the benefits and prestige of participation in research activities; form an optimal system of incentives (rewards); support students' ideas
Excessive workload of students with the main educational work	Rationally organize the work of all project participants; teach all project participants how to efficiently work with the material; correlate real possibilities of pupils/students with the set purposes and tasks of the project.
Force majeure	Distribute responsibilities in the group; perform step-by-step results evaluation; establish interpersonal communication, which will contribute to the formation of teamwork skills; stimulate the development of competencies in the field of cognitive activity

In primary school, students are involved in the development, implementation and presentation of projects. In traditional initial training, the simplicity of projects ensures the success of their implementation, so it stimulates the zeal and desire of the learner to work on the next project.

Student projects can be diverse in type, form, duration, conditions, results, etc. The core of any project is the idea of creative development of the child as a subject of activity while ensuring his/her maximum independence and productivity.

Thus, on order to conduct a pedagogical experiment, we identified experimental and control groups of students in parallel classes, taking into

account approximately equal previous academic achievements, thereafter, the model of development of creativity of the junior school pupils was the basis of work with experimental group. The control group was engaged in the traditional method, which allowed to compare the effectiveness of the process of creativity development by means of project work on the developed technology and using previously tested methods.

According to the results of the ascertaining and formative stages of the research, the levels of development of students' creativity were established with the help of the following diagnostic methods: high, medium and low.

Table 3

The level of development of creativity in project activities

Level of development	Ascertaining stage		Formative stage	
	EG	CG	EG	CG
High	13%	18%	16%	17%
Medium	59%	46%	62%	50%
Low	28%	36%	22%	33%

To determine the level of creativity of students, we used the E. Torrens test, aimed at studying such indicators as mental speed, flexibility, originality and development. Speed consists of two components: ease of thinking, i.e. the

speed of switching between subobjectives when performing text tasks, including accuracy. Flexibility of the mental process is the ability to switch from one idea to another while attempting to find several different ways

to solve the same problem. Originality is identified as the minimum frequency of the respond of one group.

Analyzing the test results during the initial stage of the research we identified the level of creativity in 59 % of students in the experimental and 46% of the control groups as the average. The high level of creativity in students of experimental classes has increased, the average – has increased accordingly; the low-level indicators have decreased. Comparative data indicates the effectiveness of experimental work on the development of creativity in project activities, thus, it is established that project-based learning creates conditions for creative self-realization of junior school pupils in cognitive and transformational activities, increases motivation to learn new material, promotes the development of their intellectual abilities. Students gain experience while conducting real-world research in order to create a project.

Comparative data confirm the effectiveness of experimental work on the development of creativity in project activities. It is established that project-based learning creates conditions for creative self-realization of junior schoolchildren in cognitive and transformational activities, increases motivation to learn, promotes the development of their intellectual abilities. Students gain experience in conducting real-world research while creating a project. The specificity of students' project activities "is largely related to the focus on obtaining a project result, which provides a solution to the applied problem and has a specific outcome. The student's project activity is considered from several sides: the product as a materialized result; process as work on project implementation; substantiation of the project as an illustration of the student's educational achievement".

In the process of project work a number of skills and abilities are

formed, namely: reflexive skills (to comprehend a task for the solution of which present amount of knowledge is insufficient); ability to answer questions (what, why, when set of questions); search (research) skills to independently generate ideas, find a way to act, attracting knowledge from different areas; independently find missing bits of data in the information field; extract the missing data from the expert (teacher, consultant, specialist); find several options for solving the problem; postulate hypotheses; establish causal relationships; skills of evaluative independence); skills and abilities to work in a team (collectively plan; interact with any partner; organize mutual assistance in the group while solving common tasks; skills of business partnership; find and correct mistakes in the work of other group members); managerial skills (product design process); plan activities, time, resources; make decisions and predict the consequences; skills of analysis of their own activities); communication skills (initiate learning interaction, engagement in dialogue, asking questions; leading a discussion; defending one's point of view; finding a compromise; having interviewing skills, etc.; presentation skills and abilities (monologue skills; ability to behave confidently during the performance, artistry, the ability to use different means of visualization during the performance, to answer unplanned questions, etc.) [5].

Conclusions and research perspectives. Despite the fact that creativity is one of the most recently researched areas, it doesn't have a precise and uniform definition yet. Nevertheless, we can still try to identify its specific features:

- regardless of what the problem is aimed at, the creative process changes the structure of external information and internal ideas through the formation of analogies;

- existing knowledge, memories, images, skills to create a new appear in a new way;

- the process of creativity development is characterized by a nonverbal model of thinking;

- at different stages of creativity there is an internal tension, thus it can be: in the form of a conflict between the new and the traditional, between the intended product and different solutions, as well as between disorganization and the transition to a new, higher level of efficiency.

Summarizing the theoretical data on creativity, we can state that creativity acts as the ability to set tasks and find a non-standard solution in the tasks in any area. Creativity is an important aspect of a person's life, it helps to feel like the creator of your life, not be afraid to take risks, look at the problem from different angles and deviate from accepted norms.

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